

REMARKS

Claims 1-3 and 9-30 are pending in the present application, and claims 13-26 are withdrawn from consideration as a result of an election/restriction requirement. To expedite allowance and issuance of the present application, withdrawn claims 13-26 are canceled herein without prejudice. Additionally, claims 3 and 12 has been canceled, and certain subject matter contained therein has been included in claim 1. As a result, claims 1-3, 9-11, 27-30, and new claim 31 are currently before the Examiner for further consideration.

Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the office action mailed March 18, 2004, the following actions were taken:

- (1) an election/restriction requirement was formalized in writing;
- (2) claims 1, 3, 9-11 and 27-29 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 6,177,239 (hereinafter "Wang");
- (3) claims 1-3 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,465,081 (hereinafter "Sarkar"); and
- (4) claims 12, 29 and 30 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wang.

It is respectfully submitted that the presently pending claims be examined and allowed. Applicants submit that each and every claim herein, and throughout the prosecution of the present application is fully supported by the specification as originally filed, and that no new matter has been added.

Election/Restriction Requirement

The Applicant acknowledges that an election was made by telephone as set forth by the Examiner. As a result, claims 1-3 and 9-12, and 27-30 were before the Examiner for consideration, resulting in the present Office Action.

Rejections under 35 U.S.C. § 102(b)

Before discussing the rejections, it is thought proper to briefly state what is required to sustain such a rejection. It is well settled that "[a] claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987). In order to establish anticipation under 35 U.S.C. § 102, all elements of the claim must be found in a single reference. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986), *cert. denied* 107 S.Ct. 1606 (1987). In particular, as pointed out by the court in *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1981), *cert denied*, 469 U.S. 851 (1984), "anticipation requires that each and every element of the claimed invention be disclosed in a prior art reference." "The identical invention must be shown in as complete detail as is contained in the...claim." *Richardson v. Suzuki Motor Co.* 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989). Accordingly, the Examiner must show that each and every element of the instant claims is taught by a single prior art reference.

The Examiner has rejected claims 1-3, 9-11 and 27-29 under 35 U.S.C. 102(b) over Wang. Claim 1 has been amended to include subject matter contained in claims 3 and 12, now canceled, and claims 27-29 remain unamended. As a result, all 35 U.S.C. 102 rejections related to amended claim 1 are believed to have been rendered moot, as the limitation requiring an 80 Sheffield unit surface roughness was not rejected under this section (Amended claim 1 will be discussed further under the 35 U.S.C. 103(a) discussion which will follow).

Regarding the rejection of claims 27-29, Wang discloses a lubricant layer that consists of "composite wax particles having a wax phase and a non-crosslinked polymer phase." (See col. 2, line 64). The composite particles are "incorporated"

into a “substrate coating composition” which is superposed on the support to create the lubricant layer (See col. 6, line 25). Thus, in Wang, the polymer must be “firmly bound” to the wax phase to prevent the polymer from dissolving away (See col. 6, line 25). In fact, Wang specifically states that the inability of the polymer and the wax phase to remain bound would result in the dissolution of polymers and instability in the wax phase (See col. 6, line 13). Further showing that bound particles are paramount, Wang teaches methods of synthesizing composite wax particles such as polymerization of monomers in the presence of wax particles creating active centers for polymer attachment (See col. 4, line 16), free-radical abstraction of hydrogen from wax particles (See col. 6, line 16), and grafting of the polymer to the wax (See col. 6, line 14). Not only are methods of creating these bonds described, but Wang also teaches that copolymers used should be “properly designed to have good binding with the wax phase.” (See col. 5, line 64). The Examiner stated that mixing is a sufficient means of creating the “firmly bound” particles required in Wang; however, no evidence of this is given (See col. 6, line 10) within the Wang specification, or from any other source.

Claim 27 of the present application requires that the coating be made up of a wax and a polymer binder (See page 9, line 7-10). In this embodiment, as stated in the claim, a “blend of hydrophobic binder and natural wax” is formed (See page 6, line 20 and page 15, line 10). On its face, a blend is different than a composite. A blend is a compound created by combining or mixing so that the constituent parts are indistinguishable from one another (Merriam-Webster Dictionary). A composite is a multiphase material formed from a combination of materials which differ in composition or form, remain bonded together, and retain their identities and properties (Dictionary of Composite Materials Technology) (*underlining added*).

The Examiner has stated that “[b]lending at least to compounds is equivalent to mixing the compounds, which provides physical bonding of the compounds as in Wang.” However, column 6, lines 9-14 clearly states that “it is necessary that the polymer is firmly bound either physically or chemically to the wax phase. Otherwise, the polymer may be dissolved away from the wax phase and the composite wax particles would lose its stability.” The specification goes on further to describe a chemically-modified preferred embodiment. As chemical or physical bonding is

clearly different than mere blending, reconsideration on these grounds is respectfully requested.

Rejections under U.S.C. §102(e)

The Examiner has rejected claims 1-3 as being anticipated by Sarkar. The Applicant acknowledges this rejection. However, it is believed that this rejection has been rendered moot, as claim 1 has been amended to include subject matter found in claim 12. Removal of this rejection is respectfully requested.

Rejections under U.S.C. §103(b)

Claims 12, 29 and 30 were rejected by the Examiner as unpatentable over Wang. It is believed that as claim 27 has been shown to be distinguishable over Wang, and thus, claims 29 and 30 which depend therefrom are also believed to be in allowable condition.

With respect to the rejection of claim 12, which recites an 80 Sheffield unit surface roughness, this limitation has been included in independent claim 1. It is believed that Wang does not teach or suggest this limitation. Specifically, Wang teaches of an imaging surface for ink-jet recording comprising a support, an imaging layer, and at least one non-aqueous “lubricant” layer. Wang also teaches that “[i]t is desirable to have a low coefficient of friction (COF) to provide proper conveyance and to protect the imaging element from mechanical damage.” (See col. 1, line 60). COF indicates a force required to slide a surface to the force perpendicular to the surface. Hence, a lower COF generally indicates a more slick or lubricated surface. Wang teaches that commonly known coatings can be costly due to the requirement of preparing multiple layers (See col.2, lines 3-9 and lines 18-25). Wang also teaches that a lubricant layer comprised of non-crosslinked polymers and natural wax that has a low COF, which requires only one coating and will not corrupt the printed image (See col. 2, lines 40-46). Demonstrating the necessity of a low COF, Wang teaches that the surface friction value of the lubricant layer (indicated by COF) creates both the upper and lower limits of the coating weight value (See col. 3, lines 1-10).

The present invention discloses an ink-jet printing media that minimizes ink transfer by means of a hydrophobic, ink-repellant backside coating (See page 6, lines 5-10, page 8, line 2). Referring specifically to claim 1 as amended, the substantially

hydrophobic coating has an average surface roughness greater than about 80 Sheffield units (See page 7, lines 8-9). As described in the specification, increased surface roughness prevents printed surfaces from sticking when the ink is wet, leading to “decreased gloss loss and/or surface damage to the printed image” (See page 3, line 27) thereby providing “improved output tray stacking performance.” (See Title and Example 10).

Surface roughness is measured in Sheffield Units in the present claims, where a higher value indicates a rougher surface. Table 2 of the present application provides a comparison of the stacking performance of coatings as taught in Examples 5-9 by measuring surface damage to a printed image, as well as ink-transfer to the backside of subsequently stacked media (See Example 10, Table 2). As indicated, those coatings with a greater surface roughness (Examples 7 and 8 exhibiting greater than 80 Sheffield units) provided the best stacking performance. Conversely, some of the backcoating compositions did not work as well for improving stacking performance (See Examples 5, 6, and 9). Claim 1, by indicating a Sheffield unit requirement, is intended to cover those coating compositions that provided improved output stacking performance.

Relevant to amended claim 1, the Examiner has stated that “[s]ince the lubricant layer comprises wax particles and matting agents, the layer would have a certain roughness, however, Wang fails to disclose such roughness value.” The Examiner also stated that “experimental modification of this prior art in order to ascertain optimum operating conditions fails to render the applicants’ claims patentable in the absence of unexpected results.” Though this is a correct statement of the law, it misapplies the present facts. In the present circumstance, if the Applicants were merely modifying the compositions taught by Wang to achieve the best possible composition that is taught by Wang, the issue of unexpected results might be applicable. This is not the case. The present claims introduce an element that is neither taught nor suggested by Wang, i.e. a minimal amount of surface roughness, and thus, the Applicants are not merely modifying Wang to achieve optimal results. This would be impossible as Wang does not teach or suggest that surface roughness is even a consideration. Wang is primarily focused on lubrication to achieve low coefficient of friction.

If the Examiner were to provide a relevant reference that teaches increasing roughness can reduce friction, just as many similar references could likewise be found that indicate that roughness can increase friction, e.g., sand paper has greater friction than its substrate. Thus, Wang does not teach that surface roughness is relevant in reducing the COF, and even the presence of a hypothetical secondary reference that may show such a teaching would necessarily not cure this defect.

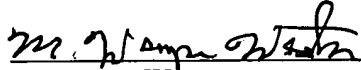
Further, the mere fact that the compositions of Wang would have an inherent surface roughness does not render the presently claimed invention obvious, as there are many compositions that would not have the surface roughness required by amended claim 1. Even in the Applicants' own specification, compositions that do not meet the 80 Sheffield unit requirement are disclosed. (See Examples 5, 6, and 9). As there is no indication whatsoever in Wang that surface roughness can be used to improve output stacking performance or even that surface roughness can be modulated for the any purpose Wang itself discloses, a *prima facie* case of obviousness has not been made. Reconsideration on these grounds is respectfully requested.

Reconsideration of each of the above rejections is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to telephone W. Bradley Haymond (Registration No. 35,186) at (541) 715-0159 so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any overpayment to Deposit Account No. 08-2025.

Dated this 16th day of June, 2004.

Respectfully submitted,



M. Wayne Western
Attorney for Applicant
Registration No. 22,788

Gary P. Oakeson
Attorney for Applicant
Registration No. 44,266

Of:

THORPE NORTH & WESTERN, LLP
8180 South 700 East, Suite 200
Sandy, Utah 84070
(801) 566-6633

On Behalf Of:

HEWLETT-PACKARD COMPANY
1000 NE Circle Blvd., m/s 422B
Corvallis, OR 97330-4239
(541) 715-0159